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THE KEYSTONE
Defender

l. 4 No. 7 STATE COUNCIL OF CIVIL DEFENSE, HARRISBURG, PA. September, 1955

P. T. A. AND CIVIL DEFENSE

By Mrs. Ralph Walter, *State Chairman*
Pennsylvania Congress of Parents
and Teachers.

The Pennsylvania Congress of Parents and Teachers sees clearly a need to provide for security in these times of international tension. It feels this responsibility keenly because of its consciousness of responsibility to children.

The Congress has extensive resources. There are 400,000 people drawn from all walks of life who can and should make contributions to an adequate civil defense.

The P. T. A. organization believes that in time of insecurity, Americans must keep their nation well protected from the attack of any aggressor, and at the same time, must work hard toward the ultimate goal of a free world in which men can live their lives contentedly. It believes in the ability and power of our government to develop a military force strong enough to hold back a potential attacker and provide an effective civil defense.

The Parent-Teacher organization, in addition to these beliefs, recognizes three clear responsibilities:

1. The organization pledges itself to keep abreast of defense plans as developed and interpret to the general public the problems of the program and the responsibility of individuals to take places on the county and local civil defense teams.
2. Those of the organization pledge themselves, in spite of the burdens created by the present crisis, to rededicate their efforts to the continuing task of developing homes, schools, and communities in which children can grow as healthful personalities.
3. They shall be ever alert to the situations created by maximum military and industrial defense programs and will prepare themselves to meet emergencies as they arise in homes, schools, and communities.

(Continued on page 7)

C. D. IN RUSSIA

A well-organized civil defense system has been developed in the Soviet Union. It includes a permanent command and staff organization, called MPVO, directly responsible to the Ministry of Internal Affairs, and is supplemented by numerous organizations and groups whose primary functions are not civil defense. The MPVO organization parallels that of the government structure down to the basic unit of collective farm, factory, or apartment house. Each unit has at least one "self-defense group" consisting of all men between 16 and 60 and women between 18 and 54 who are not divided into teams responsible for police services, fire-fighting, decontamination, first aid, and rescue.

The training of these self defense groups, and the mass civil defense training of the civilian population in general, is conducted by the MPVO, the DOSAAF (Voluntary Society for Assistance to the Army, Air Force and Navy), and the Red Cross and Red Crescent Societies. Primary training responsibility, however, rests with the DOSAAF, the organization of which parallels that of the MPVO. Although DOSAAF conducts programs of instruction in many premilitary and paramilitary subjects, there is in each of its echelons a section for "Anti-air and Anti-chemical Defense" (PVKhO). These are the basic DOSAAF civil defense training units, and they are organized like the MPVO units at the factory, the collective farm, and the apartment house level. In October, 1954, it was stated in Pravda that "in every (DOSAAF) primary organization priority must be given to the preparation of all the population for modern anti-air and anti-chemical defense."

There are two significant things here: first, that all the population must

(Continued on page 7)

THE MATCHING FUND STORY

Records on file at the State Council of Civil Defense show that Pennsylvania and its political sub-divisions have benefited much from the Federal matching fund program.

Hugh H. Hoke, matching fund administrator for the State Council of Civil Defense said that for the fiscal year just ended Pennsylvania applications totaled $2,800,000.00 as of July 27th (deadline date for this current issue). There were 450 approvals for a total of $1,600,000.00. Mr. Hoke said, "I feel sure all our applications will be approved."

According to Mr. Hoke, Pennsylvania had an allocation for the fiscal year just ended of $895,362.00. He explained that an additional $272,000.00 were received from the Federal government for warning devices. He expected "another sizable amount" from a re-allocation of unused funds from other states by December 31st.

An indication of the interest in Civil Defense in the Commonwealth is the active participation in this matching-fund program.

In the year just ended, the state got approvals for $290,000.00 worth of equipment for general Commonwealth use. The bulk of this will go for the purchase of radiological equipment and the bell-and-lights program.

Mr. Hoke plans visitations to all areas of the Commonwealth shortly to explain the 1956 matching-fund program. This State has as its share, an original allocation of $1,042,976.00. The same programs as were eligible in 1955 will again be eligible, with the addition of Evacuation Studies. There will be no fire program in 1956.

There is presented in this issue of the "Defender" a tabulation of matching-fund approvals since the start of

(Continued on next page)

Matching Fund Approved Applications by Counties

Counties	*1952*	*1953*	*1954*	*1955*
Adams	$20,676.00	$48,763.00	$6,786.00	$5,932.00
Allegheny	324,815.78	342,339.00	121,554.00	231,184.00
Armstrong	624.00	1,392.00		67,594.00
Beaver	33,049.00	225,720.00	4,136.00	10,710.00
Bedford	662.00	16,958.00	7,300.00	2,384.00
Berks	36,629.00	37,913.00	166,132.00	24,796.00
Blair	58,489.00	20,731.00	38,654.00	16,644.00
Bradford			14,372.00	29,722.00
Bucks	25,548.00	63,897.00	174.00	50,864.00
Butler		78,502.00	25,985.00	8,892.00
Cambria	131,447.68	212,155.00	98,422.00	80,712.00
Cameron				
Carbon	2,516.00	17,860.00	8,451.00	12,924.00
Centre		11,275.00		
Chester	7,528.00	29,533.00	4,952.00	1,070.00
Clarion				1,670.00
Clearfield		49,320.00		5,692.00
Clinton		43,119.00	350.00	1,878.00
Columbia			34,482.00	3,192.00
Crawford		53,636.00	9,792.00	3,246.00
Cumberland		28,354.00	63,990.00	25,478.00
Dauphin	3,449.00	84,033.00	10,492.00	5,050.00
Delaware	53,046.98	145,983.00	13,138.00	6,552.00
Elk		10,155.00	12,395.00	5,830.00
Erie	128,139.46	53,262.00	83,913.00	56,160.00
Fayette			11,424.00	14,326.00
Forest				
Franklin			26,802.00	4,120.00
Fulton				
Greene		48,479.00	348.00	57,430.00
Huntingdon	1,362.00	7,029.00	1,534.00	1,224.00
Indiana		18,612.00		5,312.00
Jefferson		11,275.00		906.00
Juniata				
Lackawanna		94,211.00	23,651.00	38,772.00
Lancaster	21,677.00	61,560.00	45,690.00	6,948.00

(Continued on page 3)

Having a part in Philadelphia's traffic control during "Operation Motorcar" (a part of the June 15th exercise) was a Piasecki H-21 B helicopter. The H-21 can carry 20 people or 12 litter patients.

The Matching Fund Story

(Continued from page 1)

the program. A study of this table will show how generously some of the counties have benefited. It will also show that a few of the counties have made no use of the program. It is felt that additional study by Civil Defense Directors at a local level and conferences with appropriate governing officials will result in further use of the program. In its recent rating of all counties in Civil Defense endeavor, the State took cognizance of the counties' participation in the matching-fund program.

Welcome, New Directors

EASTERN AREA:

Reaser Hutchison, R. D. #1, Bangor, Pa.; J. Russel Worstall, Jr., 419 Jacksonville Rd., Hatboro, Pa.; Thomas Shone, 15 Hill St., Courtdale, Wilkes-Barre, Pa.; Adam Crahall, R. D. #2, Wilkes-Barre, Pa.; Robert E. Morgan, Forty Fort, Pa.; Richard A. Rudy, Fredericksburg, Pa.; Wm. H. Merner, Jr., 515 Hampshire Rd., Drexel Hill, Pa.; Wm. C. Bailey, 43 Voronica Rd., Suburban Village, West Chester, Pa.; Morgan Ginder, Split Rock Lodge, R. D., White Haven, Pa.

CENTRAL AREA:

Carl Brugger, Westfield, Pa.; Elbert D. Middaugh, Ogdensburg, Pa.; Milan Butler, Wellsboro, Pa.; Alan B. Hutcheson, Covington, Pa.; James T. Justin, R. F. D., Mansfield, Pa.; Elmer Love, Liberty, Pa.; M. M. Purhan, Gaines, Pa.; Lyle Kriner, Wellsboro, Pa.; Lawrence Hunt, Westfield, Pa.; T. P. Hawthorne, Mont Alto, Pa.

WESTERN AREA:

Albert B. McGary, 38 Buena Vista St., Washington, Pa.; Lester C. Hostetler, R. F. D. #1, Markleton, Pa.; Chas. R. Foster, Cowansville, Pa.; Jack Stanzak, R. D. #1, Tarentum, Pa.; George Grunden, Bairdford, Pa.

IN MEMORIAM

It is with deep regret that we announce the death of Mr. Frank L. Vogel, Deputy Director, Westmoreland County Civil Defense Council.

Mr. Vogel served well and faithfully for a period of 4 years as Deputy to Howard "Bud" Thomas, Director. He was always ready and eager to cooperate for the betterment of Civil Defense. It was announced that Robert P. DeLotto of New Kensington will succeed Mr. Vogel as Deputy Director.

The Matching Fund Story

(Continued from page 2)

Lawrence	17,228.00	80,965.00	3,866.00	13,150.00
Lebanon		756.00	63,026.00	3,190.00
Lehigh	850.00	13,178.00	44,268.00	5,198.00
Luzerne	86,117.10	105,569.00	13,330.00	19,888.00
Lycoming		38,961.00	5,836.00	49,504.00
McKean	40,636.72	36,682.00		43,726.00
Mercer		5,904.00	53,550.00	1,384.00
Mifflin		10,472.00		5,124.00
Monroe	17,908.00	33,714.00	4,700.00	2,436.00
Montgomery		62,914.00	19,952.00	26,020.00
Montour			8,120.00	
Northampton	6,484.00	93,840.00	298.00	36,554.00
Northumberland		29,216.00	21,392.00	
Perry				3,884.00
Philadelphia	99,443.68	270,224.00	232,226.00	60,150.00
Pike				
Potter				980.00
Schuylkill	790.00	42,883.00	36,806.00	9,448.00
Snyder		10,304.00		13,144.00
Somerset	48,923.86	85,685.00	85,282.00	7,678.00
Sullivan		14,855.00		
Susquehanna		31,334.00		16,856.00
Tioga		29,022.00		18,182.00
Union		510.00		5,326.00
Venango		1,542.00	31,016.00	12,058.00
Warren		35,685.00	13,364.00	30,486.00
Washington	55,518.74	66,924.00	8,371.00	12,880.00
Wayne		24,595.00		1,436.00
Westmoreland	280,834.06	210,914.00	91,878.00	89,874.00
Wyoming				
York		97,800.00	67,756.00	2,658.00
Pennsylvania	4,257,753.34	125,070.00	133,238.00	290,166.00
TOTAL	$5,762,146.40	$3,374,586.00	$1,773,644.00	$1,565,936.00

Federal Announcements

A NEW SCHEDULE of courses at the Staff College FCDA was announced recently by W. Gayle Starnes, Director. The courses will be given at Battle Creek, Michigan, except those marked below with an asterisk. These will be given at Olney, Md.

Administration Course
October 30-November 4*

Evacuation Course
October 3-7
November 7-11*
December 5-9

Operations Course
October 10-14
December 12-16

It was also announced by FCDA that two exhibits may be requested by Civil Defense Directors. One is called "Conelrad" and consists of three panels. The dimensions of this exhibit are about 8 feet in width and 7 feet in height and the shipping weight is 110 pounds. (FCDA will pay one-way on shipping.)

A ten-panel enlarged photo exhibit entitled "Improvised Hospital" is also available. To obtain loan of either of these exhibits requests must be made through the State Civil Defense Director and the requests must be channeled through appropriate County and Area Director.

A new FCDA film entitled "To Live Tomorrow" was also announced recently. This film stresses panic prevention and is being widely distributed to television stations. There are also prints available at FCDA Regional Offices and should be procured through the State Council of Civil Defense. Several medical films have also recently been released by the Navy Department and may be purchased under the FCDA Matching Fund Program. These films are entitled:

"Sucking Wounds of the Chest."

"Penetrating Wounds of the Abdomen."

"Cricothyroidotomy."

"Medical Laboratory Techniques, Seriological Techniques, and Venipuncture."

"Use of Whole Blood, Plasma, and Serum Albumin."

"Taking a Blood Pressure."

"Artificial Respiration: The Back Pressure-Armlift Method."

THE SKYLARK SYSTEM

THE COST to the taxpayer of about $517.00 results each time jet fighters of the Air Defense Command are scrambled to intercept unidentified aircraft.

It was to relieve this necessity that some mid-western filter centers are now using a plan known as the "Skylark System"—a system of volunteer flight information reports.

By this system, when private pilots are planning a flight they report directly to filter centers. They say "Aircraft flash Skylark" and give the following information:

(1) CAA Identification Number.
(2) Color of Aircraft.
(3) Type of Aircraft.
(4) Point of Departure (Name of Airport or Nearest Community).
(5) Estimated Elapsed Time before Departure (Actual Take-off should be within Five Minutes of ETD).
(6) Altitude.
(7) Route: Direct or Via—etc.
(8) Destination.
(9) Air Speed (Indicate Cruising Speed in MPH).
(10) Esimated Time En Route.

This information finally relayed to an aircraft control and warning squadron has made it possible to correlate actual tracks with flight plans and identify the tracks before it is necessary to send up jet fighters for identification.

It is expected that this plan, designed by Major Alfred T. Sadler, GOC Coordinator, State of Wisconsin will be expanded into air defense identification zones throughout the country.

—*From the Aircraft Flash, Official GOC Magazine.*

To Microfilm Records

THE Bucks County Commissioners took steps recently to protect important legal documents in the event of enemy attack when they signed a contract to microfilm deed and mortgage books in the Bucks County Recorder of Deeds Office.

Remington Rand, Inc., was named as the firm to do the work. The project was suggested by Col. Arthur M. Heritage, U. S. Army-Ret., Director of Bucks County Council of Civil Defense. It was stated that a film reader with magnification would also be purchased by Bucks County in addition to a film storage cabinet and a filing cabinet with card guides.

The Act of May 9, 1949, Pennsylvania Legislature authorizes County Commissioners to take advantage of this service.

SUPPLYING FUEL FOR CIVIL DEFENSE

By F. B. HUFNAGEL, JR.—*Sun Oil Company*

FUELING VEHICLES for civil defense during "catastrophe conditions" is most important and justifies consideration. We cannot now supply full detailed instructions, as there are no standardized forms or manuals, nor is there any nation-wide organizational procedure presently in existence. It is difficult for Region II to work out a system that will be suitable for every other region and also will coordinate with the activities of FCDA and other War Agencies. Initial steps should be worked out in Washington, and there must be agreement between the various Federal Agencies as to a proper delineation of their duties.

When "the Bomb" drops, jobs of rescue, evacuation and rehabilitation will be the responsibility of local Civil Defense officials. This is a tremendous assignment, and it is most unfair to expect local Civil Defense personnel with so many vital jobs to perform, to add to other duties the job of fuel procurement. Nor would that have been expected during World War II. Therefore, let us review past successful organizational procedures and try to allocate proper responsibilities to those agencies best qualified. First, let's consider the relationship between governmental agencies that was tested and finally adopted during World War II. This system was ready to use, if required, during "Korea."

Responsibility of maintaining a steady flow of petroleum fuels charged to the *Petroleum Administration for War*. This group, composed of experts loaned by the oil industry, knew how much crude oil could be obtained with the allocated steel and man-power. When crude oil was collected above ground, the *Petroleum Administration for War* determined which refineries were best able to manufacture aviation gasoline, other fighting fuels, and civilian fuels.

Transportation, except for pipelines, was assigned to the *Office of Defense Transportation*. This agency which controlled railroad, highway and barge movements, figured out how best these media could be used to move crude oil from the fields to the refineries, and it supplied the transportation. Again the Petroleum Administration, after discussion with the Military, the War Production Board and other civilian governmental agencies, determined where the refined fuel was most needed and what quantities could be made available. Then the Petroleum Supply and Distribution Committees, established the five PAW districts, designated the particular terminals and bulk plants best able to efficiently dispense the limited fuels and made sure that gasoline and fuel oil were supplied to all distributing organizations. Again, the Office of Defense Transportation was advised of the quantities to be shipped from refineries, and the terminal destinations. Then, ODT transported the fuel. Finally, it went to service stations for distribution under OPA rationing.

Fortunately, our cities were not destroyed as in other countries. There was only "standby" need for a Civil Defense organization, but according to this theory, Civil Defense organizations would designate those places where fuel was most urgently needed and request that the available supplies be delivered there. Ordinarily this would be a service station. It should be stressed that gasoline and diesel fuel arrive at final destination only as the result of a series of complex but carefully integrated operations beginning in oil fields that may be located thousands of miles away.

Therefore, responsibility for overall operations in the event of emergency should be allocated along functional lines. The jobs of crude oil production, refining, warehouse and terminal operations and pipelines can properly be assigned to a petroleum agency. Responsibility for the transportation by tankcar, barges and trucks of crude oil, and finished products from refinery terminals to bulk plants belongs to a transportation agency. Finally, responsibility for the actual use of the fuel after it arrives at the designated service station or other local storage facility should be assigned to Civil Defense.

Civil Defense should not be required to supply the fuel. Civil Defense should designate the quantities it needs at the proper locations. Available fuel should be delivered to those points by Defense Transportation. Thus, Civil Defense should be responsible for service station control of gasoline and diesel fuel, but should not be required to bring the product to the service station.

This delineation of authority appears most suitable, as a recent survey showed more gasoline in service station storage than at the refineries or the terminals and warehouses combined. A conservative proportion—50% in service stations vs. 50% in the other reserves—would indicate that local civil defense organizations have enough responsibility in making sure that this large percentage of the nations fuel reserve is not wasted. Otherwise, half the nation's gasoline inventory may be lost to non-essential users. This is a considerable assignment in itself. Any further supervision of fuel supplies at terminals and refineries is certainly an unfair burden to foist upon an organization not technically qualified to handle it. So let us limit consideration to service station control.

Many service stations have underground storage tanks capable of holding 5,000 or 6,000 gallons of motor fuel and, occasionally, even greater quantities. This tankage is filled by deliveries from the nearest terminal of the supplier. If reserves of the operating service stations are totaled, it can be seen that the available motor fuel is very great and is more than enough for the immediate requirements of the local Civil Defense operations.

If many passengar car owners suddenly "filled up" during a time of stress and, in addition, filled 5-gallon and 10-gallon cans and jugs, reserves would soon be depleted, serious fire hazards would be created and terminal supplies would be required for Civil Defense operations. Trouble then would develop from depleted reserves. Competition between various local Civil Defense organizations might result in chaos with irresponsible dispersal of the last available petroleum fuel. Thus, control of the service station inventories by Civil Defense is essential and the required mechanism should be available ready to operate *at once* whenever necessary.

There are two ways of doing this. First, by assigning local Civil Defense personnel to control each service station supply; second, by appointing each service station manager as a Civil Defense representative to dispense his own supply. In any event, service station inventory should be taken at the earliest moment and responsibility for all fuel issue should be assigned.

Who should be issued motor fuel? This is a most important question and

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* Excerpts from an address made before Region II Civil Defense Transportation Committee in Pikesville, Md., Jan. 21, 1954.

OPERATION CUE RESULTS

(A State Council report on the results of this Spring's atomic test "shot".)

In the FCDA residence tests seven out of 10 houses would have been habitable in an emergency after shoring and repairs. The above ground portion of the two-story brick and cinder block house at 4700 feet was almost completely destroyed, with the first floor partially collapsed into the basement. None of the brick work remained standing, and the structure as a whole was beyond repair. A one-story frame rambler located nearby was likewise almost completely destroyed. Only the reinforced concrete bathroom shelter remained intact. But a one-story reinforced lightweight cinder block house and one-story precast lightweight concrete house at 4700 feet suffered only minor structural damage; with replacement of doors and window sash, both houses were habitable. At 5500 feet a two-story redesigned frame house suffered severe damage and was unsuitable for occupancy without extensive repairs. At 7800 feet a two-story redesigned frame house suffered relatively heavy damage, but its condition was such that it could be made available for emergency shelter from the elements by shoring and not too extensive repairs. The one-story precast light aggregate concrete house and the one-story reinforced masonry block house, both located 10,500 feet from the explosion, suffered relatively minor damage. Only minor repairs would be required to make these dwellings suitable for reoccupancy. A one-story frame rambler, also located 10,500 feet from the explosion, suffered relatively heavy damage, but nevertheless could be restored to conditions suitable for occupancy at moderate costs. The two-story brick and cinder block house located 10,500 feet from the explosion suffered considerable damage to the roof and second floor ceiling, with minor damage to walls and floors. The masonry appeared to suffer little or no damage, although there was considerable damage to window sash and doors. At a reasonable cost this house could be made suitable for emergency housing.

In the Trailers Coach mobile homes tests, seven trailers were placed at the 10,500 ft. line. Two were tipped over. (One had been broadside, the other approximately 45° to the blast). Five other trailers remained upright. The group of trailers was damaged—walls slightly dashed in, windows broken. A major portion of the broken window glass fell outside where there were screens inside. Where there was no screening or any venetian blinds and particularly where there were large picture windows, much of the glass was found inside. Broken and upset furniture, ripped cupboards and debris, made the interior a scene of general disorder. All trailers could have been occupied in time of emergency, and at the 15,000 ft. line, where seven more trailers stood, some windows were broken but none of the trailers were overturned and no major damage was sustained. The principal repair required to make them habitable would be window replacement or improvised window covering.

About 90 food products were tested; selection of these was based on a careful evaluation made to determine the largest volume and most frequent use in the American dietary. About half of the products were staples such as flour or sugar, semi-perishables, such as potatoes or processed meats, and perishables, such as fresh meats and frozen foods. The other half were heat sterilized foods packaged in metal or glass. Of the latter alone there were a total of 908 cases and 3,802 uncased samples.

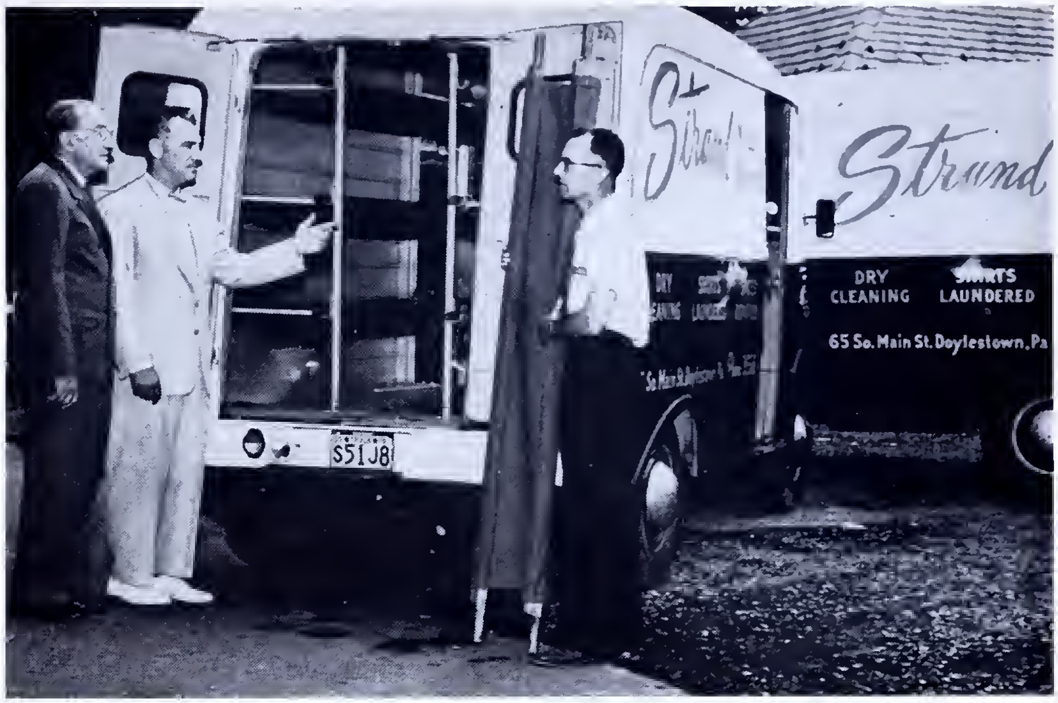
In addition to the extensive variety of food products, a study was made of retail and wholesale packagings and a number of different kinds of packaging films in an effort to establish guide lines for the best preservation of foodstuffs from radioactive fall-out contamination. The foods were exposed to the atomic explosion at distances ranging from as close as a quarter of a mile to three miles; same samples were even exposed deliberately at distances of 15 miles in areas where maximum contaminating fall-out conditions could be observed. Sampling of the foods exposed will be made to determine if any changes in taste, odor, or flavor occur. Since exposure of foodstuffs to high radiation flux may modify the nutritive properties and, in certain cases, even create toxic substances in the food, long range animal feeding tests will be conducted—up to two years in some cases—with monkeys and rats. This was a joint effort of various segments of the food and food packaging industry and two departments of the Government, all under the sponsorship of the Federal Civil Defense Administration.

Emergency vehicles such as rescue, electric utility, gas utility, telephone trucks and fire pumpers were exposed to the blast. A lone rescue truck at the 1,470 foot line was wrecked. Vehicles at the 4,700 foot line were damaged severely. At the 10,500 and 15,000 foot lines, vehicles suffered light damage and would have been available for immediate use.

A test of money chests, insulated and uninsulated files, microfilm cabinets, corrugated records storage boxes

(Continued on page 7)

EMERGENCY AMBULANCES



Left to right—Col. A. M. Heritage, Bucks County Civil Defense Director; Robt. Fighera, Strand Valet Service, and Wm. Christman, Doylestown Civil Defence Executive Director.

A Bucks County dry-cleaning service has been installing litter racks in its cleaning and laundry vans for possible Civil Defense use.

Robert Fighera, of the Strand Valet Service, Doylestown, has so arranged his vehicles to permit six stretchers to be carried (see photo).

COMBINED C. A. P.—C. D. EXERCISE

On June 19 the Civil Air Patrol and Civil Defense joined hands in an inter-county exercise that included a convoy from Delaware County to Spaatz Field, Reading. The photo shows, from left to right, Col. Edwin Doss, the Pentagon's representative at the operation; Col. Robert Bowden, Deputy Adjutant General, Pennsylvania National Guard, and Dr. Richard Gerstell, State Civil Defense Director.

"FIVE EVACUATION NEEDS"

By Oscar Sutermeister, *City Planner,*

Milwaukee, Wisconsin.

(A number of Pennsylvania cities are carrying out evacuation studies as called for by State Council of Civil Defense Information Circular No. 47. As a matter of interest, additional material on this subject will be presented in these pages from time to time. Its inclusion, however, will not necessarily indicate endorsement by the Council.)

First, we need better evacuation plans. By better is meant taking the best that has been done, so far, such as certain work in Milwaukee, Washington and St. Louis, and using it as a starting point for the addition of the following:

a) A broader concept of the reception zone.

The entire United States should be divided into reception zones for the critical target areas. St. Louis has perhaps gone farther in this direction than any other large city.

b) An inventory of facilities available in the reception zone.

This should not be limited to the minimum essentials of fallout cover, shelter from the elements, and feeding and other welfare facilities, but should include schools, hospitals, institutions, and commercial, industrial and transportation land uses and occupancies.

c) A planned selection of present activities in the evacuation zone which are to be transferred to and reestablished in the reception zone.

Those would include at least some important sections of local and state government, the professions, corporation offices, central business district commercial activities, warehousing, food distribution. transportation, schools, hospitals, institutions of all types, etc.

d. The extension of evacuation routes from the edge of the evacuation zone out through the reception zone to its far boundaries.

Second, we need plans for highway improvements on evacuation routes. Such plans will involve preparation of condition diagrams, sufficiency ratings, lists of projects, cost estimates, and construction priorities. Enough studies have already been made to identify the major types of projects as eliminations of the following kinds of bottleneck:

a) Short road sections traversed by two evacuation routes which merge and then diverge.

b) Bridges carrying fewer lanes than the evacuation routes of which they are a part.

c) Gaps in potential evacuation routes where rural watercourses were never bridged.

d) Sharp turns in evacuation routes or sharp turns where one evacuation lane diverges from other evacuation lanes on the same route.

e) Intersections traversed by two evacuation routes which enter and leave on separate roads but are subject to sideswiping in the intersection.

Third, we need federal legislation establishing a federal-aid highway program for construction of minor improvements to evacuation routes of the types mentioned above. This should be included in the Federal-Aid Highway Act of 1955 because existing federal aid programs are not applicable to many city streets and rural roads which will be incorporated in evacuation routes and which will need minor improvements.

Fourth, we need plans and a federal-aid program for major new construction of combination evacuation-dispersal freeways. Roads built solely for evacuation and incidental peace-time use would have too short a military life to justify their cost, since intercontinental ballistic missiles are expected to reduce warning time to the point where large scale evacuation may be impracticable in a few years. If new evacuation highways are built as freeways, however, so that they can serve also as dispersal highways connecting central city target areas to new dispersed development zones with adequately short travel times, then their cost can be justified on the triple basis of wartime evacuation, peacetime stimulation of defense dispersal, and normal peacetime use. A new federal-aid highway program should be established to finance combination evacuation-dispersal freeways, but federal air should be conditioned

(Continued on page 7)

P. T. A. and Civil Defense

(Continued from page 1)

The Pennsylvania Congress of Parents and Teachers has agreed that the program of civil defense should be continued by the Parent-Teacher organization. They give emphasis to the following points:

1. P. T. A. civil defense leaders should seek out their local director of civil defense and become familiar with plans for communities.
2. They should work with these civil defense directors in setting up whatever defense measures seem appropriate for each community.

It should be recognized that civil defense is here to stay. It provides the kind of citizen protection needed not only for attack by an enemy, but also during floods and serious storms.

It must also be recognized that plans for civil defense will vary widely from community to community. Communities are classified differently according to vulnerability to atomic attack. For example, in heavily populated industrial areas civil defense has its most crucial challenge. The approach to the problem there will be different than in, for example, a rural area where the problem might be a need to care not only for local people, but for many others brought in from devastated areas.

The Parent-Teacher organization has accepted its responsibility in the civil defense program. As a P. T. A. member, have you accepted the responsibility of taking an active part in your local civil defense organization for the welfare and protection of all children and youth?

See October's "FLOOD" issue.

C. D. IN RUSSIA

(Continued from page 1)

be trained, and second, that they must be trained in modern defense. It would seem that more than the self defense teams will be trained and that atomic attack will be brought into the training.

Civil defense training in the USSR has always laid great stress on defense against gas attack. During World War II, against the Germans who were known to have stocks of various types of gas, such an emphasis was not only understandable but wise. Today, however, it is somewhat puzzling to see the continuing interest in anti-gas training and the relatively large numbers of hours devoted to it. The certificate issued to those passing the basic civil defense training courses states that they are "Ready for Anti-Air and Anti-Chemical Defense."

In addition to the peacetime training of personnel and perfecting of organization, the MPVO has the important function of supervising town planning, and is thus able to assure not only the provision of shelters in all new construction, but also the dispersal of new industrial buildings from the heavily built up cities.

Interest in shelter construction for the population has been on the increase since 1950, and has continued during 1954. There is still no feeling of urgency in this or any other phase of civil defense activity and, as far as is known, no drills or exercises involving public participation have been held. Aside from the general civil defense training in the PVKhO courses, there are numerous specialists' courses given by other agencies, of which the most important are the first aid training of the Red Cross and the Red Crescent Societies. Mass training is conducted by the Red Cross Society in "Christian" areas of the USSR, and by the Red Crescent in Moslem areas. No figures are available for the number of people trained or in training.

During the past year, the Kremlin changed its former policy regarding the release of information on nuclear energy, and in a series of articles in the Army journal "Red Star" and later in "Pravda," the nature of the processes of nuclear fission and fusion as manifested both in bombs and in reactors for peaceful purposes was officially revealed. It is known that the Soviet Armed Forces have recently received indoctrination in atomic warfare, and it is logical to assume that some similar type of training has been given to MPVO officials, at least in the upper echelons. We have no definite information on this.

To sum up, the Soviets have a well organized and well developed civil defense system, geared closely to their active air defense system and operating from top to bottom of the Soviet state. It is producing each year large numbers of people trained in the different services, who are themselves equipped to lead and train others. The civil defense effort contributes materially to the general Soviet capability for defense against air attack.

'CUE' RESULTS

(Continued from page 5)

and document boxes, all containing items such as newsprint, correspondence, sensitized paper, oiled tape, costume jewelry, etc., was also made. Of 21 unshielded units spotted 500 feet to 4,700 feet, all but two units were destroyed and the contents sprayed about the desert. Units placed within structures at 4,700, 5,500, and 10,500 feet were in good condition except one hopelessly-mangled uninsulated file on the second floor of the brick building at 4,700 feet.

Communications equipment, including a community dial telephone exchange, complete AM broadcasting station, 120-foot communications tower, 150-foot antenna, etc., was tested. The 250-watt transmitter at the 4700 foot line was expected to broadcast until one minute before the explosion and return to the air three minutes following, but wire breakage resulted in dead silence after the "shot." At 4700 feet the 120-foot tower was crumpled. The 150-foot antenna and most wires appeared easily repairable. Damage to communications equipment at the 10,500 foot line appeared negligible.

EVACUATION NEEDS

(Continued from page 6)

upon local adoption of urban defense zoning to establish central area density limitations, so that future central area growth will not undo the improvement in evacuation capability created by the freeway. This program should be written into the Federal-Aid Highway Act of 1955, not because construction can be started soon on combination evacuation dispersal freeways, but because time must be allowed for state legislature to decide whether they want to pay the price of density limitation for such federal aid.

Fifth, we urgently need a revision of the National System of Interstate Highways to provide by-passes of at least the critical target areas, so that if these areas are destroyed by H-bombs the Interstate System will not be chopped into isolated segments and cease to function as a national strategic road net.

Public reaction to the AEC announcement on fallout released February 15, 1955, has caused Congress to start thinking about evacuation highway improvements. Sooner or later federal legislation will probably be adopted. Action under such legislation may well improve not only our short range defense position based on evacuation, but also our long-range defense position based upon dispersal.

SUPPLYING FUEL

(*Continued from page 4*)

should be decided now. A suggested list might be as follows:

The local police officers in their official cars.

State police and highway patrolmen in their official cars.

Regular and volunteer fire departments for their fire equipment.

The local Red Cross official vehicles.

Ambulances.

Civil Defense officials designated by an official fuel use card.

Other vehicle drivers with approved Civil Defense identification.

"Foreign" Civil Defense vehicles, such as out of State ambulances, busses, etc., that carry universally approved vehicle identification cards.

A nationally acceptable fuel use identification card should be established by State and Federal Civil Defense agencies. This card should show the name and official title of the individual and should be suitably identified by a special series of numbers. In addition, proper vehicle identification should appear on a separate card so that charges can be made by the local service station operator. Volunteer pedestrial Civil Defense workers will be engaged in patrol and rescue work, who will be transported as passengers. They should not be authorized to obtain fuel.

How shall the service station operator be paid for the gasoline he dispenses? This is important, if he is to obtain additional fuel and thus continue to supply Civil Defense activities. Cash would not necessarily be needed if the Civil Defense receipt, issued at the time of fuel purchase, could be used as a negotiable instrument suitable for credit from the supplier. Service station operators usually are small independent business men, with little cash reserve. Thus quick replenishment of negotiable credit is essential. Whether the payment form is developed by each State or by Federal Civil Defense in Washington should be decided soon. Accounting details should be developed prior to preparation of instructions on fuel dispensing to maintain nationwide uniformity. This is properly a Washington FCDA responsibility.

Replenishment of service stations can best be done by tank truck; either hauling from a nearby terminal, or if local terminals are destroyed, from distant supply sources. Possibly shipments may originate at a refinery—sometimes at a distance from the particular station. Therefore, this tank truck movement from terminal, bulk plant or refinery to service station can best be directed by Defense Transportation, who will know where tank truck equipment is obtainable and to what purpose available vehicles should be assigned.

When special mass movement of trucks, busses, taxi cabs, etc., is required, a single service station or group of service stations in a given area should be assigned to refuel these vehicles. A convoy should only carry its fuel supplies with it when operating in foreign lands without multitudinous service station facilities. A DTA tank truck keeping service stations full is more useful than if assigned to "tag along" with a convoy and thus becoming unavailable for other work. One tank truck can refuel only one or two vehicles at a time, whereas most service stations have four, six or eight pumps all available for use simultaneously, and with another group of four, six or eight service station pumps probably on the opposite street corner or 100 yards down the highway. Below-ground storage of motor fuel is safer than storage in a moving highway vehicle.

In addition to allocating responsibility for tank truck transportation to DTA, allocating responsibility for replenishment of bus terminal fuel storage and truck terminal fuel storage to DTA also seems desirable. During the last war, this agency decided the allocations of tires, vehicle parts, manpower and motor fuel to all operating truck and bus fleets. Why upset this established pattern and rule that a bus fleet should receive DTA allocations of motor fuel prior to the "catastrophe" but afterward from Civil Defense? DTA should assign suitable trained personnel in this job, and save the local Civil Defense organization from an unnecessary burden.

Allocating the responsibility of all tank truck movement to DTA is also needed in order to maintain a constant supply of various fuels to communities outside a devastated area. Many rural areas manufacture their own electricity with diesel engine generators. Without connections to power company transmission lines, their electricity fails whenever diesel fuel is cut off. Their light, water and food refrigeration systems then all fail, too, and the towns become "casualties" to all practical purposes. Authority for maintaining such operations should be delegated to the appropriate supply and distribution committee of the Petroleum Administration. Supplying the necessary tank trucks should be the job of Defense Transportation. Diesel fuel can then be shipped "best way" from wherever available.

In summary, therefore,

1. Designating petroleum fuel supply sources and maintaining an efficient flow should be assigned to the *Petroleum Administration.*
2. Transporting petroleum and supervising tank trucks should be assigned to *Defense Transportation;* this to include supplying bus and truck terminals.
3. Rationing and dispensing motor fuel reserves in service stations should be assigned to the *local Civil Defense Agency,* who should advise the Petroleum Administration as to which service stations replenishment should be sent.
4. Establishment methods of payment for service station owners, developing the forms and accounting instructions required, should be done *as soon as possible* by FCDA in Washington. This information should be passed on to State Civil Defense organizations *at the earliest possible moment.*
5. Upon receipt of these uniform accounting and payment instructions, the State Civil Defense offices should plan the most suitable method for immediate control of service station supplies and assume their dissemination.

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